PORTABLE ELECTRONIC DEVICE AS HEALTH COMPANION

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No. 62/221,253, filed on Sep. 21, 2015 and titled "PORTABLE ELECTRONIC DEVICE AS HEALTH COMPANION", which is incorporated by reference herein in its entirety.

FIELD

The following disclosure relates to an electronic device. In particular, the following disclosure relates to a wearable electronic device that can be used to determine and evaluate external environmental factors that can affect a user's health.

BACKGROUND

Electronic devices may include certain features to enhance a user experience. For example, an electronic device may include a sensing element designed to monitor the user as well as a surrounding environment. In particular, a wearable electronic device can include multiple sensors used for interacting with a user that can provide information related to a current physical condition and/or health of the user as well as provide relevant environmental information.

SUMMARY

In one aspect, a wearable consumer electronic device is described. The consumer electronic product includes a housing arranged to carry operational components. The consumer electronic product also includes an interconnected group of sensors at least one of which is carried by the housing and operable as a sensor engine in communication with the processor. The sensor engine includes a first sensor capable of detecting a threshold amount of water and a second sensor capable of detecting a property of the water, where detection of the threshold amount of water by the first sensor causes the second sensor to detect the property of the water. In one embodiment, the consumer electronic product is wearable.

A method carried out by a wearable consumer electronic product includes at least the following operations: detecting at least a threshold amount of water by a first sensor, detecting a property of the water by a second sensor in communication with the first sensor, and providing a notification in accordance with the detected property.

In another aspect, a wearable consumer electronic product includes at least a housing arranged to carry operational components comprising a processor and a band having a pliable band body and a securing mechanism arranged to secure the band body to the housing. In one embodiment, the pliable band body has a size and shape suitable for wrapping around a user's appendage and that includes an opening that leads to a cavity within the band body suitable for accommodating an amount of water, a band sensor embedded within the band body in communication with the cavity.

Other systems, methods, features and advantages of the embodiments will be, or will become, apparent to one of ordinary skill in the art upon examination of the following figures and detailed description. It is intended that all such additional systems, methods, features and advantages be included within this description and this summary, be within the scope of the embodiments, and be protected by the following claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The disclosure will be readily understood by the following detailed description in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements, and in which:

FIG. **1** shows a front view of an electronic device;

FIG. **2** shows a rear view of electronic device shown in FIG. **1**;

FIG. **3**A shows representative cross sectional view of a sensor carried by an electronic device in accordance with the described embodiments;

FIG. **3**B shows representative cross section of band carried sensor in accordance with the described embodiments;

FIG. **4** shows a system in accordance with the described embodiments;

FIG. **5** shows a particular implementation of a system as a water sensing system in accordance with the described embodiments;

FIG. **6** shows a particular example of a system in accordance with the described embodiments;

FIG. **7** illustrates a flowchart showing a method for using a wearable electronic device as an environmental sensor/health monitor in accordance with the described embodiment; and

FIG. **8** is a block diagram of an electronic device suitable for use with the described embodiments.

Those skilled in the art will appreciate and understand that, according to common practice, various features of the drawings discussed below are not necessarily drawn to scale, and that dimensions of various features and elements of the drawings may be expanded or reduced to more clearly illustrate the embodiments of the present invention described herein.

DETAILED DESCRIPTION

Reference will now be made in detail to representative embodiments illustrated in the accompanying drawings. It should be understood that the following descriptions are not intended to limit the embodiments to one preferred embodiment. To the contrary, it is intended to cover alternatives, modifications, and equivalents as can be included within the spirit and scope of the described embodiments as defined by the appended claims.

In the following detailed description, references are made to the accompanying drawings, which form a part of the description and in which are shown, by way of illustration, specific embodiments in accordance with the described embodiments. Although these embodiments are described in sufficient detail to enable one skilled in the art to practice the described embodiments, it is understood that these examples are not limiting such that other embodiments may be used, and changes may be made without departing from the spirit and scope of the described embodiments.

The following disclosure relates to an electronic device. In particular, the electronic device can have a form factor that renders the electronic device wearable. By wearable, it is meant that a user can wear the electronic device as a decorative (but also functional) accessory that can be secured or otherwise attached to a garment or appended to a user's limb much like a watch. In the context of this discussion, however, the electronic device can be considered